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Hardy Nut Trees

1917

J. F. Jones
NUT TREE SPECIALIST

Lancaster,
Penna.

TO FRIENDS AND PATRONS



N PRESENTING this, my annual catalogue and culture guide, I am glad to be able to say that I am highly pleased with the reception my hardy budded and grafted Nut Trees has met and the kindly words of appreciation from those who are interested in the planting of nut trees commercially, as well as from those who have only limited grounds for tree planting and who want trees primarily for shade and ornament, but who see the folly of planting trees which furnish only shade and ornament for the room taken, while Nut Trees fill these purposes admirably and at the same time pay well for the room taken.

There is nothing available to the horticultural world that offers such extraordinary inducements as the planting of Nut Trees, now that we have budded and grafted trees of varieties hardy and fruitful under our conditions; especially, when we consider the permanency of the Nut Trees and their comparative freedom from disease and insect depredations. The pecan, shagbark, black and English walnuts, grow and produce fruit for generations, with very much less care and attention than is required in the growing of our more common orchard fruits. The budded or grafted trees bear early too, so that, even though one may be advanced in years, they may plant nut trees and reasonably expect to enjoy the fruits of their labor and the same is passed on to posterity, not only unimpaired but increasing in productivity.

Nut culture in the north and east is already becoming of importance, and will, before many years, become of very great commercial importance. We will then take our proper place with the west and south in nut production. The Pacific Coast States grow the walnut and the south grows the pecan very profitably. We can grow both of these nuts, also several others commercially.

Where a few years ago I sold trial orders of a half dozen trees, I now sell 50 to 100 trees in many cases. I have now on my books several orders for commercial plantings. Some of these are for several hundred trees.

It is my desire, especially, to make my annual catalogue and cultural guide a reliable book of information and those interested in nut culture will find the information and descriptions of varieties conservative and reliable.

I have for sale this season a larger stock of trees of both pecans and English walnuts, also several thousand grafted black walnut trees,—all PENNSYLVANIA GROWN, and am therefore in position to take care of my customers better than ever before.

I wish to thank my friends and patrons for past favors and solicit future orders with the assurance that the same will have my most careful attention.

J. F. JONES, Lancaster, Pa.

ORDER SHEET

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J. F. JONES, The Nut Tree Specialist
LANCASTER, PA.

AMOUNT INCLOSED

Please send the following by

5

(State how you wish order shipped)

To address of

Express Office (if different from P. O.)

Post Office _____ *County* _____ *State* _____

Order sent by _____

PARCELS POST SHIPMENTS

The following Information will be helpful to those desiring trees sent by Parcels Post :

I do not recommend the shipment of trees by Parcels Post because express is safer and better, but where it is not convenient to have them sent by express we can send the small or medium size trees by parcels post. I cannot guarantee the delivery of trees or their condition upon arrival, when sent parcels post.

Bales of trees weighing up to 50 pounds can be sent parcels post to points within 150 miles of Lancaster. Small bales, up to 20 pounds, can be sent any distance, but express is considerably cheaper for long hauls.

Parcels Post packages must not be over 7 feet in combined length and girth. For instance, if a bale of trees has a girth of 3 feet, the length must come within 4 feet, while if the girth is only 18 inches, the length may be $5\frac{1}{2}$ feet.

Sufficient to cover the postage should be sent with all orders to be sent Parcels Post.

Weight in Pounds	ZONES				
	First Up to 50 miles	Second 50 to 150 miles	Third 150 to 300 miles	Fourth 300 to 600 miles	Fifth 600 to 1000 miles
1	\$0.05	\$0.05	\$0.06	\$0.07	\$0.08
2	.06	.06	.08	.11	.14
3	.07	.07	.10	.15	.20
4	.08	.08	.12	.19	.26
5	.09	.09	.14	.23	.32
6	.10	.10	.16	.27	.38
7	.11	.11	.18	.31	.44
8	.12	.12	.20	.35	.50
9	.13	.13	.22	.39	.56
10	.14	.14	.24	.43	.62
11	.15	.15	.26	.47	.68
12	.16	.16	.28	.51	.74
13	.17	.17	.30	.55	.80
14	.18	.18	.32	.59	.86
15	.19	.19	.34	.63	.92
16	.20	.20	.36	.67	.98
17	.21	.21	.38	.71	1.04
18	.22	.22	.40	.75	1.10
19	.23	.23	.42	.79	1.16
20	.24	.24	.44	.83	1.22
21	.25	.25			
22	.26	.26			
23	.27	.27			
24	.28	.28			
25	.29	.29			
26	.30	.30			
27	.31	.31			
28	.32	.32			
29	.33	.33			
30	.34	.34			
31	.35	.35			
32	.36	.36			
33	.37	.37			
34	.38	.38			
35	.39	.39			
36	.40	.40			
37	.41	.41			
38	.42	.42			
39	.43	.43			
40	.44	.44			
41	.45	.45			
42	.46	.46			
43	.47	.47			
44	.48	.48			
45	.49	.49			
46	.50	.50			
47	.51	.51			
48	.52	.52			
49	.53	.53			
50	.54	.54			

**NOTE: 4 to 5 ft. trees are mailable only
when trimmed or cut back ready for
planting.**

SIZE, APPROXIMATE WEIGHTS AND QUANTITY MAILABLE					
	1½ X 2 ft	2 X 3 ft.	3	4 ft.	4 X 5 ft..
..... 1	4	6	9	12	
..... 2	5	8	11	15	
..... 3	6	9	13	18	
..... 4	7	11	15	21	
..... 5	8	12	17	24	
..... 6	9	14	19	27	
..... 7	10	15	21	30	
..... 8	11	17	23	33	
..... 9	12	18	25	36	
..... 10	13	20	27	39	
..... 11	14	21	29	42	
..... 12	15	23	31	45	
..... 13	16	24	33	48	
..... 14	17	26	35	50	
..... 15	18	27	37		
..... 16	19	29	39		
..... 17	20	0	41		
..... 18	21	32	43		
..... 19	22	33	45		
..... 20	23	35	47		
..... 21	24	36	49		
..... 22	25	38	50		
..... 23	26	39			
..... 24	27	41			
..... 25	28	42			
..... 26	29	44			
..... 27	30	45			
..... 28	31	47			
..... 29	32	48			
..... 30	33	50			

The left-hand column above shows the number of trees, while the other columns to the right, same parallel, show their approximate weight in each size, when packed for shipment.



Bearing seedling pecan orchard near Princess Anne, Md.

Information of First Importance

The information of first importance to those desiring to plant Nut Trees, whether their wants be large or small, is what to plant and where to procure the trees. It is especially important that one get started right, otherwise much time is wasted and it not infrequently happens that those who plant worthless nut trees get the idea that they can't grow nuts and hesitate to make any further trials.

To those who know me, it is not necessary to mention my past, but I believe a little introductory information along this line is due those who desire to plant nut trees and who have not previously dealt with me. The growing of Nut Trees is my life work, and with over twenty years' experience in growing nut trees and specializing in the growing of budded and grafted trees for seventeen years, I am able to grow and deliver trees that not only please when delivered, but trees that make good!—trees that grow and bear fruit. There is no guess work either, as to what my budded or grafted trees will produce when they come into bearing, as is the case with seedling trees or trees of doubtful origin. The future of any nursery business depends upon the behavior of the stock sent out, and the steady and rapid growth of my business attests to the superiority of my stock, and to the superior service given.

Long experience and concentration of energy in the growing of nut trees exclusively, give me an obvious advantage over the general nurserymen. Owing to the methods employed in the propagation of nut trees being comparatively new and uncertain of results, except in the hands of an expert propagator, the general nurserymen are not propagating nut trees by budding or grafting, except in a very few instances.

The propagation of Nut Trees was begun by me in an experimental way, in my native state, Missouri, over twenty years ago. My first attempts at grafting these trees was not at all satisfactory, but to me the work was peculiarly fascinating and I managed to get enough grafts to grow to keep up my enthu-

siasm and encourage me to greater efforts. The only encouragement that I was able to get at that time, from authorities on propagation was, that the pecan was being budded with some degree of success on the Gulf Coast, but even there results were not satisfactory. At that time no attempts to bud or graft the shagbark or walnut had proven successful. Upon learning of the ring or annular budding which was at least giving some results on the pecan, in the lower south, I lost no time in trying this out. With only scions from old trees, this method was not adapted to the shagbark and I failed to get practical results with it on the walnut, as the work was done on the pecan in the lower south, but the following year I got a good stand of buds by wrapping with patch rubber as then used in patching bicycle tires. Later, however, I perfected the Patch Method and invented and patented the now well-known, Jones Patch Budder. This method of budding is now used by all the leading propagators of nut trees, both north and south. Along with budding, my modified cleft-graft method was perfected. This method, which is original with me, differs from any other previously in use, in that we cut the cleft in the stock, not splitting it, and the cleft is made to one side, instead of in the center of the stock. We formerly covered the grafts, after inserting and waxing, with a paper bag, but for several years now have waxed the grafts over entirely, for the most part, and used no bags or other covering, in nursery propagation. For the bagging idea, I am indebted to the California propagators. So far as I know, Mr. E. A. Riehl, Alton, Ill., was the first to seal or cover the grafts entirely with wax, in grafting nut trees.

It is not enough that a nurseryman be able to produce nursery trees. It must be apparent to the reader of these pages, that the nurseryman growing and disseminating nut trees, must have a practical knowledge of nut culture and of varieties and their adaptation, if he is to give proper service. While it would be a very desirable qualification, a technical knowledge of fruit culture is not essential to the nurseryman growing fruit trees because of our common knowledge of fruit growing. From the beginning, I have taken great interest in nut culture and am a life member of both the Northern and Southern Nut Growers' Associations. I have traveled extensively in the interest of nut culture and investigating new and promising varieties of nuts, with a view to procuring the best varieties possible for propagation. In the search for, and selection of varieties for propagation, I have had the co-operation and help of Hon. Mason J. Niblack of the Indiana State Board of Agriculture, Dr. Robert T. Morris and Mr. T. P. Littlepage, ex-Presidents, and Dr. W. C. Deming, Secretary, of the Northern Nut Growers' Association; Messrs. J. G. Rush, W. C. Reed, J. F. Wilkinson and others. Mr. Rush is well known as a pioneer grower of English walnuts in Pennsylvania and originator of the Rush English Walnut, named and introduced by me.

I like to encourage those desiring to propagate nut trees and otherwise be helpful to the industry, but some of my followers who have been only partially successful in the propagation of nut trees, or who were not satisfied to await the development of an adequate stock of trees or sufficient propagating wood of the best varieties with which to grow trees, get out attractive catalogues and offer nut trees before they are in position to properly take care of such trade. As a result, trees are being bought and sent out which are not adapted to northern planting, to the detriment of the industry. To build up adequate mother blocks with scions from old bearing trees, is "up-hill" work at the best, and takes years of time in any event. I have here, so far as I know, the only extensive mother blocks of the improved northern varieties of the pecan, English and black walnuts and shagbarks. These mother blocks, which now comprise several thousand trees old enough to supply good scions in considerable quantity, have been built up at a very considerable expense. It must be remembered, in this connection, that varieties are confined to one tree, before having been propagated by budding or grafting, and the scions from these old, bearing trees, give very poor results as a rule. The trees planted in my mother blocks were grafted with scions taken direct from the original trees. Besides being as near to the original tree as it is possible to get, taking scions for propagation from these pedigree, first generation trees, reduces the possibility of mistakes to the minimum. The propagation of trees from nursery stock, as is now generally done, removes the trees a generation from the original tree each year; also each year adds to the possibility of mistakes; besides, continued propagation from nursery trees is bound to greatly retard the bearing of the young trees.



Mildred Jones gathering the walnuts on a budded English Walnut tree in my test orchard.
This tree was planted spring 1914.
Photo September 1916.

which make for easier and safer transplanting. Such trees are not now obtainable from any other nursery growing nut trees.

My Nurseries are Located three miles south of Lancaster, in a section noted for its productive soil. We have the main lines of The Pennsylvania and the Reading Rail Roads which insure the prompt delivery of shipments at nominal rates.

Visitors are Always Welcome and personal inspection of stock is invited. The Quarryville and Strasburg trolley cars, leaving Lancaster every half-hour, pass the nurseries.

I Guarantee All Trees sent out to be well grown and of the size and quality specified, but claims for stock not satisfactory, must be made promptly upon receipt of the same.

I Prune Trees ready for planting, when so instructed, and wax over all cut surfaces with a specially prepared, tough wax, applied hot.

All Quotations, unless otherwise specified, are F. O. B. Lancaster. No charge for packing or delivery of stock to the forwarding companies.

When To Plant: My hardy Pennsylvania grown trees may be planted either spring or fall. Trees may be planted any time while dormant and when the ground is not frozen. Shipping season in the fall, October 20th to December 15th, and in the spring, March 20th to June 1st. Trees for late spring shipments are held in my cold cellars, perfectly dormant, till June 1st to 10th.

Helps in Ordering: For your convenience, order sheet and return envelopes are inclosed. Money may be sent in any way that is convenient. Postal Orders may be had at nearly any Post Office, or Bank Drafts at any bank.

Warning: There are a few firms selling seedling nut trees at prices just a little lower than good budded or grafted stock can be bought. These people are taking advantage of the other fellow's skill in producing budded trees and, while they don't say they will deliver budded or grafted trees, they catalogue named varieties and otherwise lead the purchaser to believe he is getting budded or grafted trees. Several cases have come to my notice also, where agents for supposedly reliable firms have taken orders for budded English walnut trees and seedling trees of little or no value were delivered, at the advanced price.

My Pennsylvania Grown Trees succeed anywhere that nut trees can be grown. My soil and climatic conditions are peculiarly favorable for the growing of hardy nut trees, and I get here a very vigorous growth, yet a very stocky tree, and well ripened wood growth.

Growing Superior Roots is not left to chance here. Although nut trees make good roots here without special attention, we greatly improve the root system of the young trees by cutting the tap roots when the trees are one or two years old. This severing of the tap-root causes the trees to make more and better lateral roots



Partial view of one of my blocks of budded pecan trees. Many of these trees are 6 to 8 feet high and only one season's growth from the bud.

The Pecan

The pecan is the finest of our native American nuts and the most profitable to grow commercially. Unlike the other hickories, the pecan tree is of rapid growth and quickly makes a tree large enough to bear profitable crops of nuts. The improved varieties of the pecan sell for higher prices than any other nuts that reach our markets, the wholesale prices of the budded sorts running 45 to 65 cents per lb. and retailing as high as \$1.00 a pound. Some of the southern growers think the pecan can be grown profitably at 10 cents per lb., but the pecan being a native American nut and as yet little known, we have the world for a market and may reasonably expect the best budded sorts to sell for high prices for a good many years.

The pecan tree is the most cosmopolitan that we have, as regards its ability to adapt itself to various soils and climatic conditions. It is found growing naturally, as a forest tree, as far north as Davenport, Iowa, where the tree is sometimes exposed to winter temperatures of 40 degrees below zero, and from there, in practically an unbroken chain along the Mississippi river, to the Gulf Coast, where the orange, fig and other sub-tropical fruits thrive. Its behavior on various soils is no less striking. The tree is growing and bearing good crops of pecans from the lower river bottoms which are occasionally flooded for several weeks at a time, up to at least 1500 feet elevation, and on practically all kinds of soil, from the clays and clay loams, to the lightest and poorest sandy soils.

Some of the finest and most productive northern varieties that have been discovered and which I am propagating by budding and grafting, have been found near the northern limit of the pecan's natural range, and as these trees will be unquestionably hardy and mature their fruit anywhere that our more common orchard fruits can be grown, the culture of this delicious and high priced nut can now be extended very profitably. The fruit of these northern varieties can and will, compete very successfully with the best southern product. Some of the northern varieties bear nuts, under northern conditions, nearly as large as the best southern varieties, and the northern varieties selected for propagation are always well filled and of better quality than the large fruited varieties now grown in the lower south.

On a recent motor trip through Maryland and Delaware, a number of bearing English walnut and pecan trees were seen. Near Aberdeen, Harford Co., Md., we saw perhaps the largest pecan tree in the east. This tree is 88 years old, is estimated to be over 100 feet high and has a spread of 110 feet. The tree has a trunk circumference of fourteen feet, four feet above the ground and eighteen feet near the ground line. Although this tree is a seedling, supposedly of southern parentage, it bears good crops of pecans which mature well, and are of good quality, as we found by sampling the nuts. This old tree is the parent of several other trees on the same and adjoining farms. Like the parent tree, these seedlings showed remarkable vigor and with few exceptions, were bearing good crops of nuts.

Can We Compete with the South in Growing Pecans?

Some who are inclined to plant pecans, hesitate to do so because they think there is a possibility that the North can't compete with the South in the production of this nut. If it were possible to spread before the reader a panorama of the pecan forests and large trees growing in a wild state and bearing large crops of fine nuts in many cases, in Indiana, Illinois, Iowa and Missouri, and if it were possible to absorb, by this means, the enthusiasm that one who is familiar with conditions north and south, gets upon seeing these trees, there would be no questioning the fact that we can compete very successfully with the South in growing pecans. There are larger wild pecan trees, and more of them growing together, in Indiana, Illinois and Kentucky, than in any given locality farther south. One of the largest and finest natural pecan groves that I have seen is in Henderson County, Ky. This grove covers 500 to 600 acres in a solid body and most of the trees are of very large size. A good many have trunk diameters of 3 to 5½ feet, and are estimated to be 150 to 190 feet high.

The pecans native to Indiana, must mature their crop in a season two months shorter than that in the lower South where the southern pecans are grown. In the lower South, the pecan trees vegetate the latter part of March and have till November to mature their fruit. The Indiana pecan vegetates in May and ripens its fruit in September and October. As some of the Indiana sorts ripen their fruit a month before frost, they will doubtless succeed considerably farther north without the nuts materially decreasing in size or quality. I have seen the southern varieties bearing and ripening well as far north as eastern Virginia, but the nuts were not as large as those of the same variety, when grown in the lower south. The ability of the southern pecans however, to adapt themselves to climates several weeks shorter than that of their natural growth, furnishes us an object lesson, and we may reasonably expect the Indiana varieties to succeed considerably north of where they originated and where they are now growing in a wild, or natural state. If the southern pecans will succeed 500 or 600 miles north of where they originated, as they are now doing, the northern varieties may reasonably be expected to succeed at least 150 to 200 miles north of where they originated, or 200 miles north of Terre Haute, Ind.

Growers in the lower south, with their long growing seasons, can grow the mammoth pecans which take a long season to properly mature. These extra large nuts are now selling for very high prices, as size in pecans, like other nuts and fruits, is of a decided advantage provided, of course, it is combined with the other good qualities. The biggest mistake that the southern growers made, however, was in planting these mammoth varieties exclusively, as they are now willing to admit. These mammoth varieties do not produce more than one-half the quantity of nuts on the average and are never as well filled or of as good quality, as are those varieties bearing medium to large size nuts. Although these large pecans are now bringing big prices, the southern growers fully realize that eventually the consumer of pecans is going to discriminate in favor of the smaller nuts of higher quality. Although other good qualities were very largely sacrificed for size, in the pecans now grown in the south, growers now know that size will be of secondary importance in the future, because each year adds to the quantity of nuts sold in the form of "Nut Meats" and in the not far distant future, they will be sold nearly altogether in this form, for the reason that machinery is being perfected which cracks the nuts in very much better shape than it can possibly be done by hand and at a fraction of the cost.

Pecans for the Middle Belt

What is termed the Middle Belt, roughly speaking, is the section of country extending from the latitude of Atlanta, Ga., northward to central Kentucky and Virginia. This is a section of country as large as the southern area and one in which both the southern and northern varieties of the pecan may be expected to succeed. Southern varieties, such as Stuart and Moneymaker, are already being grown in this area, but as the nuts of these southern varieties when grown in this area are considerably smaller than those of the same varieties when grown in the lower south, they are not equal to the Indiana varieties which are always well filled and in every way superior to the southern varieties. There is no doubt but that the Indiana and Kentucky varieties are the best for planting in the middle belt, as the nuts will surely not decrease in size, and there is at least a possibility that they will increase in size, when taken south, where the growing seasons are longer.

Budded Trees Bear Early and the productive varieties I am propagating may be depended upon to bear good and regular crops. In some cases, where buds or grafts have been set on strong stocks, trees have borne a few nuts three years after being grafted, and top-worked trees, in Indiana, are bearing nicely the third year in some cases.

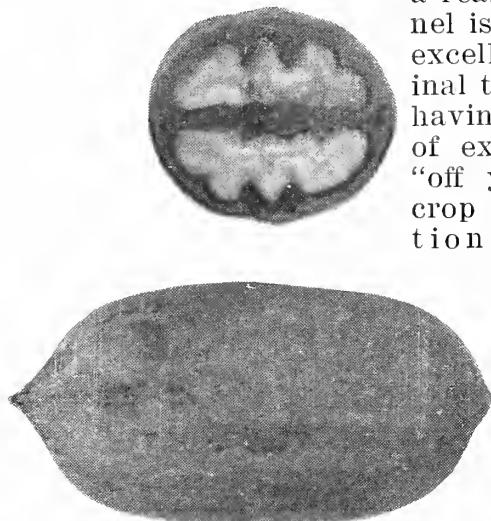
Varieties of the Pecan

BUSSERON. Originated in Knox County, Indiana. The Busseron is one of the best of the Indiana varieties. The nut is large, of good quality and fine appearance. Mr. Niblack says the old Busseron tree has the greatest bearing record of any pecan tree in the state of Indiana, and annually bears large crops of the finest nuts.

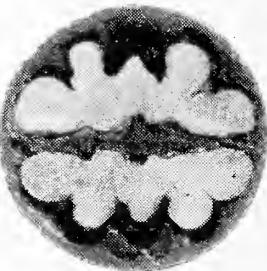
BUTTERICK. Originated near Grayville, Illinois, in the Wabash Valley. The Butterick is one of the finest pecans that has been brought to my

notice. The nut is large and a real paper-shell. The kernel is full and plump and of excellent quality. The original tree bears very heavily, having produced 350 pounds of excellent pecans on the "off year," 1913, when the crop in general in that section was very light.

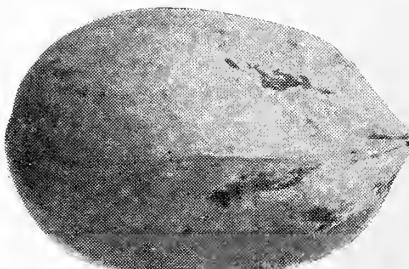
The Butterick combines large size, a real paper-shell nut of high quality and a very vigorous and productive tree, making it highly desirable for market plantings as well as for home use.



Indiana Pecan



Busseron



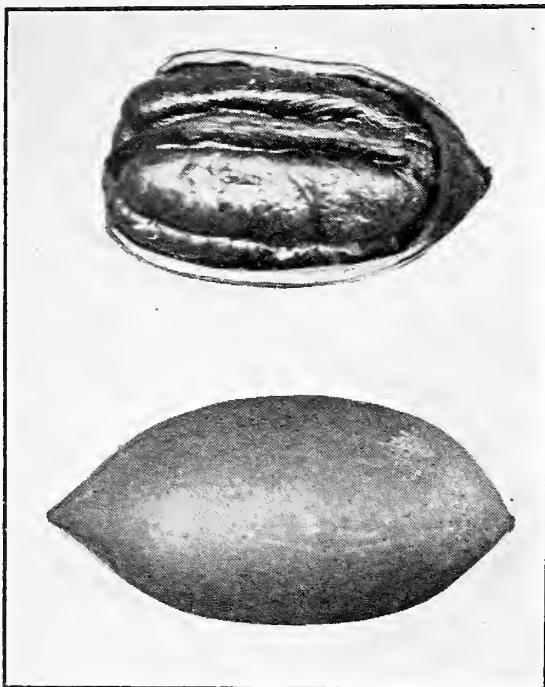
Butterick

GREENRIVER. Originated in Henderson County, Kentucky. The original tree is very large and tall. The nut is of medium size; the kernel very plump and full, and easily extracted. This pecan is a real paper-shell, and can't be beaten in quality. The tree is an excellent bearer. One of the best for home use.

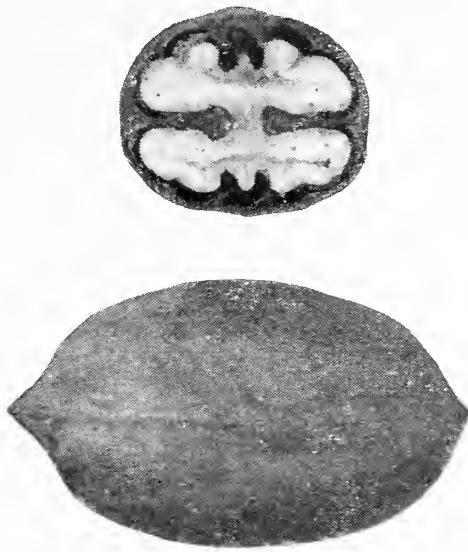
INDIANA. Thought to be a seedling of the Busseron, as the tree is younger and is located near the Busseron tree. With my present knowledge, if I were planting a commercial orchard, this variety would be my first choice. The nut is large, shell soft, kernel full and of very good quality. The original tree of the Indiana is the greatest bearer I have ever seen, either North or South, and very desirable for any purpose.

For prices of trees see page 15.

PECANS, Continued



Niblack Pecan



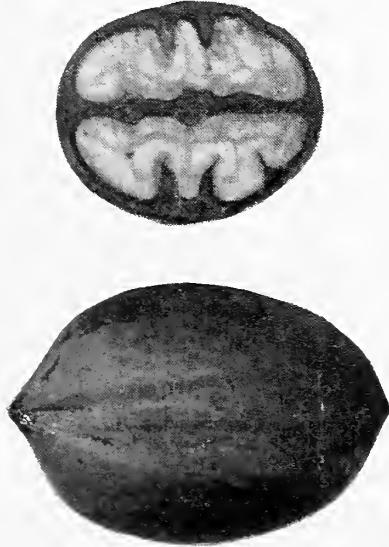
Posey Pecan

NIBLACK. From Knox County, Ind. Named for Hon. Mason J. Niblack, of Vincennes, Ind. Nut medium to large; shell thin; kernel very plump and of excellent quality. Cracking quality the very best, the plump kernel coming out in perfect halves in all cases. One of the most desirable varieties for any purpose.

POSEY. From Gibson County, Ind. One of the largest and finest of the Indiana pecans. The nut is a paper-shell and the kernels are very easily extracted. Quality very good.

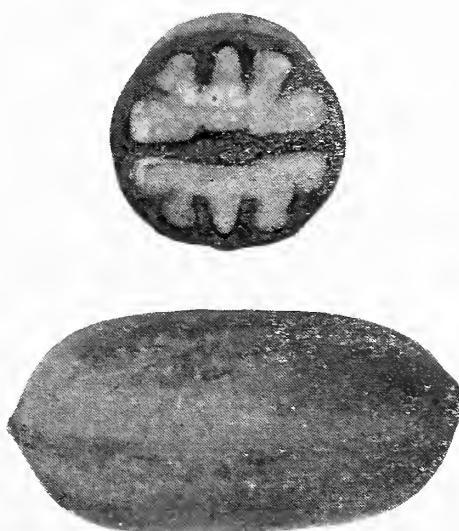
Additional Varieties: I can also supply trees of the MAJOR and WARRICK pecans.

For prices of trees see page 15.



Greenriver Pecan

"The stately Pecan and the sturdy Shagbark can be made to replace, North and South, the millions of poplars, willows and other 'bundles of leaves' which please the eye but render no valuable annual or final returns. The chief reason why this has not been done is because people have not thought about it." — DR. R. T. MORRIS, (Dr. Morris is ex-president of the Northern Nut Growers' Association.)



Busseron Pecan

"It is generally understood that the Pecan is essentially a southern tree, and it is, therefore, especially worth while to emphasize the fact, that its northern range carries it to southern Indiana, and that, in the valleys of the Wabash and its tributaries, there have been and are now being discovered varieties of a size, quality and productiveness which will make them successful rivals of the cultivated types now established in the South. There is no doubt that in the near future the Pecan will be found growing throughout New England and the more favored portions of New York, and that when this addition comes to our list of fruits, we shall have added what, in my estimation, is the king of nut fruits." — PROF. JOHN CRAIG,

The English or Persian Walnut

The English walnut has been grown quite extensively in portions of California for a good many years, and, with the introduction of the hardy French varieties, Oregon and Washington were added to the list of Walnut-growing states. Now some of the finest orchards on the Pacific Coast are to be found in these states.

Although occasional trees of the English Walnut have been growing and fruiting well in portions of several eastern and northern states for many years, comparatively few attempts have been made to grow this nut in a commercial way, as attempts to propagate the trees by budding or grafting, until recently, have not been successful. Seedling trees, under our conditions, have proved very freakish and unreliable, as they are generally decidedly lacking in vigor and therefore in hardiness. Even when the trees were grown from seed nuts taken from known hardy and productive trees, such trees as proved to be vigorous and hardy, were not to be depended upon to bear satisfactorily or to produce nuts of large size and of good quality.

So far as I know, I was the first to propagate the English walnut successfully east of the Rocky Mountains, and the first to use our native black walnut as a stock on which to bud and graft the English varieties in nursery propagation. The results being obtained are very gratifying, and I look forward with confidence to a growing and very profitable walnut industry in the eastern states.



From a photo showing a portion of the lower limbs of a bearing English walnut tree growing in the city of Lancaster, Pa.

THE HARDY FRENCH WALNUTS.

On a motor trip through Western New York and Ontario in September, 1915, we saw several fine bearing trees of these strains. At St. Catharines, Ontario, we saw a fine tree of the Franquette which was bearing a very heavy crop of very fine walnuts. There is also a fine tree of Franquette growing on Mr. John Garretson's farm in Adams County, Pa. This tree was grafted upon black walnut by Mr. Garretson's father 19 years ago, with scions obtained from California. This tree bears good and regular crops of very fine walnuts. The Mayette and Franquette are fully as hardy here as any that we have. The Mayette has borne here and the walnuts are fully as large and fine as the best California product and the finest walnuts that were ever grown in this locality.



Partial view of one of my blocks of budded and grafted walnut trees

Where the English Walnut May be Grown

I find the English walnut already growing successfully in several eastern and northern states besides Pennsylvania. It is found growing and fruiting in portions of New York, Ohio, Michigan, Connecticut, Massachusetts, New Jersey, Maryland, Delaware and Virginia; also in portions of North and South Carolina, Georgia and Alabama. For the most part, these trees are found only as isolated specimens, or at least only a few trees in any given locality, but there are a few exceptions, as in portions of New York, Pennsylvania, New Jersey and Maryland, where an occasional orchard, usually small in extent, has been planted out. The largest bearing orchard, of which information has reached me, is near Avon, N. Y. This orchard contains 225 trees planted on eleven acres. The elevated portions of the states to the south of us, from Virginia westward, are also admirably adapted to the English walnut.

A fairly safe rule in judging as to whether or not your climate and soil are suited to these trees is to plant only on land that will grow the apple or similar fruits successfully, yet where the climate is not too severe to grow and fruit the peach successfully. This has reference only to budded or graded trees of known hardy and productive varieties, worked on the black walnut or other hardy and vigorous stocks, which are suited to the conditions where the trees are to be grown.

Where the English walnut is not grown and therefore little known, the general impression appears to be that the tree is suited only to warm climates. The tree does its best in bearing and in the quality of fruit produced in cool climates. Where the tree grows well and ripens its growth up well, it will stand quite low temperatures without injury. Here in Pennsylvania the tree is perfectly hardy, healthy and long-lived, although the winters are sometimes quite severe.

ENGLISH or PERSIAN WALNUTS, continued

Wiltz Mayette

Nebo

Vrooman Franquette

Budded Trees Bear Early

Budded and grafted English walnut trees bear very early. We often have these trees bear in the nursery in their second year. Very young trees should not be allowed to bear heavily however, as the growth may be retarded and the tree dwarfed.

FRANQUETTE. One of the finest of the French walnuts. Nut large and of attractive appearance; kernel large, plump and of an attractive light color; quality very good. My trees of this are of the Vrooman variety which is much the best of this type.

MAYETTE. Also of French origin. Nut quite large, smooth and of attractive appearance. Kernel large, plump and of excellent quality. Considered the finest walnut known. My trees are of the Wiltz variety, which is decidedly the best variety of this type. Unlike the old Mayette, the Wiltz Mayette tree bears while very young.

NEBO. Originated in this county. This I consider one of my best varieties. The nut is quite large; the kernel is full and of good quality. The original tree is estimated to be over 100 years old and is one of the largest in this section. The variety is a good bearer and I can recommend it for extensive planting.

HALL. Originated in Erie county, Pa. Those wanting the very largest walnuts, should plant a tree or two of the Hall. Although the kernel does not fill the large shell completely, it is usually plump and of good quality, in this respect being superior to any other of the very large walnuts. The tree bears while very young and is a good and regular bearer.

RUSH. The Rush has the distinction of being the first eastern variety to be propagated. It was named by me for the originator and introduced in 1904. The nut is medium to large; quite smooth and attractive. The kernel is full and of good quality. The tree bears good and regular crops.



Hall

The American Black Walnut

The planting of the grafted trees of the improved varieties of the black walnut solves the problem of utilizing our waste land that cannot be cultivated. With meat growing scarcer and higher priced all the time, and with the fact in view that nuts can take the place of meat in the diet, the demand for nuts is going to be far in excess of the supply in the future. It is conservatively estimated that if one plants say 1,000 trees of the improved varieties of the black walnut and gives them some attention till established, when in good bearing they will return a revenue of at least \$10.00 per tree in "Nut Meats" or \$10,000 a year. These trees need little or no attention and may be planted on rough land or along fences and ditches where it would not be practicable to plant trees requiring more attention. The walnuts can be cracked and the kernels extracted in the fall or winter months when the average farmer or fruit grower has little else to do. With the cracking machinery that is now being perfected, this work will be made easy in the future. As soon as there is sufficient demand for it, there is sure to be power crackers made for the smaller growers of nuts at reasonable prices.

Mr. E. A. Riehl, the noted Illinois nut and fruit grower, is the first to grow black walnuts to any appreciable extent on grafted trees. Mr. Riehl has a number of Thomas trees now in bearing and has gotten up a home-made cracker by the use of which he is able to extract the meats in very nice condition. He wrote me in December, 1915, that he had sold all of the Thomas meats at 80 cents per lb., and as he got 10 lbs. of meats to the bushel of Thomas walnuts, he considered their growing very profitable. As the wholesale prices of the best English walnut meats runs about 60 cents per lb., the esteem in which the large, light colored, Thomas meats were held by dealers is readily apparent.

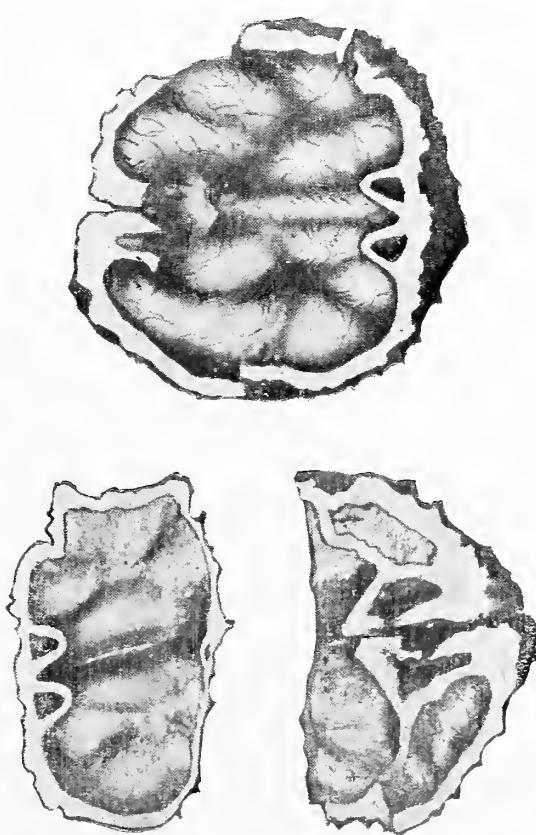
It does not require a very large black walnut tree to produce a bushel of nuts. Large trees may bear eight or ten bushels of nuts in a season.

THOMAS. The Thomas is one of the finest varieties that I have been able to find. Nut very large; kernel large, full, and of excellent quality. The grafted trees bear early and abundantly.

OHIO. From Ohio. Named and introduced by me. Nut medium size; shell thin, kernel full and of excellent quality. Other walnuts may be cracked by machinery, under pressure, and the kernels removed in halves, but the Ohio can be cracked with a hammer and the kernels easily removed in halves.



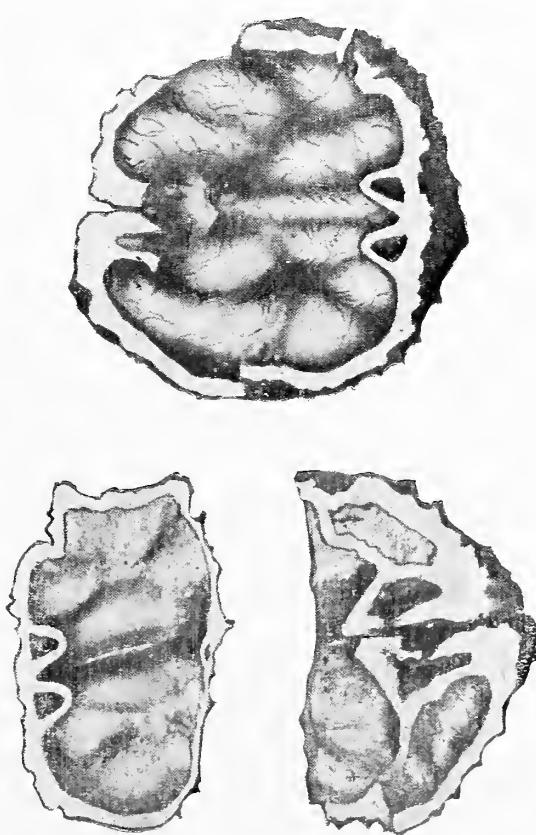
Thomas



Ohio (Somewhat reduced)



Thomas



Ohio (Somewhat reduced)

The Filberts and Cob Nuts

The European Filberts and Cob nuts succeed over a large section of country and may be grown on almost any soil. They make a large bush or small tree and with their large, luxuriant foliage, are very ornamental. The filbert does well here and generally bears good crops of nuts which are fully equal to the imported filberts.

The plants of the following varieties have been grown from layers, transplanted, and are therefore on their own roots.

COSFORD. Nut large, oblong; shell very thin; can often be cracked in the fingers. Tree said to bear abundantly.

ENGLISH. Nut large; tree very productive. One of the best and most reliable filberts.

LAMBERT. Nut very large; tree a good grower and heavy bearer. Considered the finest of all filberts.

Shagbark Hickories

I get a good many inquiries for shagbark trees. I am propagating several remarkably fine varieties but will have no trees to offer for at least another year. The Shagbark is not more difficult to propagate than the pecan, provided one has good propagating wood, but the scions from old, bearing trees, don't give very good results and it is slow work, working up mother blocks and a supply of nursery trees with only a limited supply of poor scions to begin with.

The Chestnut and the Chestnut Blight

Owing to the blight having become established in this country and owing to the danger of sending the disease out on young trees, I have given up the propagation of the chestnut here. I can't conscientiously advise the planting of chestnuts at this time unless one is well isolated from any chestnut timber. Anyone desiring to plant chestnuts should procure trees from a nursery far removed from the blight area.

The Hard Shell Almond

RIDENHOWER ALMOND. Originated in Illinois, where the tree is perfectly hardy and bears good crops. Nut medium size; quality very good. The Ridenhower almond will succeed anywhere that the peach can be grown and is very desirable for home use. The tree is also quite ornamental when in bloom.

The Persimmon

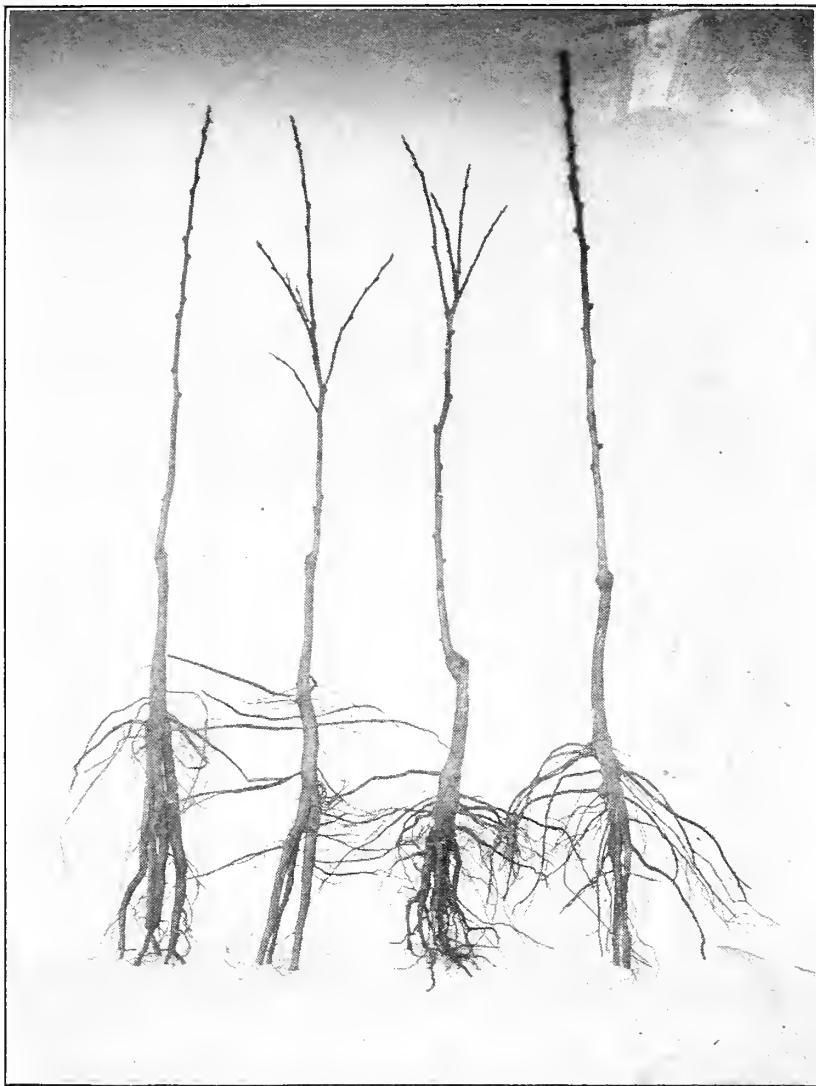
Owing to considerable inquiry for persimmon trees from those wanting something better than the general nurserymen were offering, I have worked up a stock of grafted trees of some remarkably fine varieties and have added these to my list. The persimmon is perfectly hardy here and bears big crops of fruit every year.

EARLY GOLDEN. Originated with Mr. E. A. Riehl, Alton, Ill. Fruit large, of an attractive golden yellow color. The tree is a heavy annual bearer. As the Early Golden ripens early, before frost, it is especially valuable for market.

JOSEPHINE. Originated near Bluffton, Mo. The Josephine is considered to be the finest American persimmon yet known. The fruit is very large, bright yellow and of splendid quality. A young grafted tree of this variety in Adams County, Pa., bears large crops of very fine fruit every year.

ADDITIONAL VARIETIES. In addition to the above, I can supply trees of the Miller and Burkett persimmons.

For prices of trees see page 15.



Average trees showing the effect of cutting the taproots. The two trees on the left are budded pecans. The third tree is a grafted walnut, while the fourth is a budded walnut. Severing the taproot causes the young trees to develop more and better lateral roots and several smaller taproots are usually formed instead of one long taproot with few or no lateral roots.

Prices of Trees

	Each	Dozen
Pecan or English Walnut trees, 1½ to 2 ft.....	\$1.25	\$12.50
" " " " 2 to 3 ft.....	1.50	15.00
" " " " 3 to 4 ft.....	1.75	17.50
" " " " 4 to 5 ft.....	2.00	20.00
" " " " 5 to 6 ft.....	2.25	22.50
Pecan (no Eng. Walnuts this size) 6 to 7 ft.....	2.50	25.00
Black Walnut Trees, 1½ to 2 ft.....	\$.80	\$ 8.00
" " " 2 to 3 ft.....	1.00	10.00
" " " 3 to 4 ft.....	1.25	12.50
" " " 4 to 5 ft.....	1.50	5.00
" " " 5 to 6 ft.....	1.75	17.50
" " " 6 to 8 ft.....	2.00	20.00
Filberts, select bushes, 1½ to 2 ft.....	.30	3.00
" " " 2½ to 3½ ft.....	.50	5.00
Hardy Almonds, hard shell, 3 to 4 ft.....	.30	3.00
" " " " 4 to 5 ft.....	.40	4.00
" " " " 6 to 7 ft.....	.50	5.00
Persimmons, stocky trees, 1½ to 2 ft.....	.65	6.50
" " " 2 to 3 ft.....	.80	8.00
" " " 3 to 4 ft.....	1.00	10.00

For information on the application of prices see next page.

Additional Information

APPLICATION OF PRICES. Six trees will be sold at the dozen rate and in assorted varieties, but must be made up of one general class, as 6 pecans and English walnuts, 6 black walnuts, 6 filberts, etc. For instance: One can order 6 pecan and English walnut trees, assorted varieties, 4 to 5 ft., for \$10.00. They have the privilege of adding to this, 3 black walnut, 3 filbert, 3 almond or 3 persimmon trees at the dozen prices for these items, in the sizes wanted.

TREES BY PARCELS POST. For information see order sheet inclosed herewith.

DISTANCE FOR PLANTING. Pecans and black walnuts 50 to 60 feet apart; English walnuts 40 to 50 feet apart; filberts and almonds, 15 to 20 feet apart; Persimmons, 20 to 25 feet apart.

Pecans, English and black walnuts do not need all of the room given them for 12 or 15 years, and fillers of smaller growing nut or fruit trees may be planted between them to good advantage; also any cultivated farm or garden crop may be planted between the trees, as they are little in the way of cultivation for several years.

TOP WORKING SEEDLING TREES. Those who have land with a natural growth of black walnuts, hickories or pecans, should write for a copy of my booklet on propagation and learn how to work these over to the improved varieties of the English and black walnuts, pecans, shagbarks, etc.

Planting and Care of Nut Trees

It is important that nut trees be handled and planted carefully to get the best results. Keep the roots moist and expose as little as possible to sun or wind in handling. The holes should be dug amply wide to accommodate the roots and a few inches deeper than the roots are long. No manure or other coarse material should be used in the holes about the roots. A few handfuls of bone meal or blood and bone, mixed with the soil about the roots, will do no harm and will give good results. Only good top soil should be used in filling the holes, and this **must be well firmed about the roots**, while the tree is being planted by tamping with the spade or shovel handle or a tamping stick with a smooth, rounded end, that will allow the earth to be well tamped and at the same time, not bruise the roots. Most failures in transplanting are due to the planter not firming the earth well about the roots of the tree or from using water in the holes as the trees are being planted. If water is used and the soil handled while wet, it will harden and shrink away from the roots in drying. For the same reason, trees should never be planted soon after a heavy rain, or at any time when the ground is very wet. If trees arrive when the ground is very wet, heel them in or put in the cellar till the ground is in condition to plant. If the ground is dry, so much the better for planting, and the trees may be watered after they are planted. Remove a shovel of earth on two sides of the tree, and a foot or more away; fill the holes with water and after this has soaked in, put the dirt back, leaving a loose mulch on top. If the clay is thrown out and away from the holes, and only top soil used in filling the holes,—taking this top soil from a circle surrounding the tree, when the tree is planted, it will be surrounded by a depression or basin a few inches below the surface level. This is a decided advantage, with such trees as the pecan, walnut and persimmon, as I have found by several years experience. These trees may be planted this way either spring or fall, and on any land not naturally wet. Trees planted in this way not only live better, but grow much faster, as the basin about the tree gathers both moisture and fertility during rains, and is eventually filled up with the most fertile soil. This method of planting is especially desirable where trees are to be grown without cultivation. It is possible, by this method of planting, supplemented with an annual mulch, to grow vigorous trees and profitable orchards easily and cheaply on rough, cheap land, that would be quickly ruined by erosion, if cultivated. By sowing sweet clover or other strong growing legumes, a plentiful supply of mulching material can be grown right where it is needed, and at the same time, the land improved and built up.

Planting and Care of Nut Trees, continued

TREES MUST NOT BE PLANTED TOO DEEP. If planted very much deeper than it stood in the nursery, and the tree starts into growth late, the sap may be held in the tree near the ground line and the tree injured, or even killed, by frost. This is more especially true of the pecan and other hickories, and of the smaller sizes. Where trees have been planted too deep or where planted in a basin that has filled up during the summer, the earth should be removed from immediately about the tree down to the proper depth, in the fall, the first year after transplanting. This will allow the sap to go down and the tree to harden up well before cold weather.

NUT TREES MUST HAVE THE TOPS REDUCED or cut back, either before or after planting. This forces an early and stronger growth and induces the formation of new feeding roots and the tree is well established in its new location much sooner. If the top over-balances the root system, to any appreciable extent, the over-taxed roots will simply become exhausted and no new roots will form, with the result, that even though the tree may live, it will linger along several years before getting started. The top should be reduced one-third to one-half depending upon the size of the tree and its root system.

TRAINING THE TREES. A 4 or 5 foot tree, when cut back to 2 or 2½ feet, will usually throw out several strong shoots, and this is just what is wanted. These shoots, being low, induce a quicker and stronger root formation and a sturdier tree. The head of the tree will not be wanted so low, but all growth should be allowed to remain until the tree is well established. The most vigorous shoot may then be selected and trained to form the future tree. This can be trained up-right, by tieing to the stub of the tree or to a stake. The tree should become well established in its new location by the end of the second growing season, when the surplus shoots should be removed and all of the sap thrown into the shoot selected to form the tree.

IMPORTATION OF NUTS INTO THE UNITED STATES

Compiled by Federal Department of Statistics

1906	1907	1908	1909	1910	1911	1912	1913	1914
\$7,228,607	\$9,315,891	\$9,563,742	\$8,549,997	\$12,775,196	\$14,265,572	\$15,626,484	\$13,508,307	\$19,727,249

NUTS AS A SUBSTITUTE FOR MEAT

"For those who would avoid the contributing cause of cancer, rheumatism and other grave disorders. * * In nutritive value the nut far exceeds any and all other food substances."—American Nut Journal.

In comparing total values, a pound of pecans is worth, in nutritive value, two pounds of pork chops, three pounds of salmon, two and a half pounds of turkey or five pounds of veal."—Nut Grower.

"When the Northern Nut Growers' Association celebrates its one hundredth anniversary, it is safe to predict that the decedents of the present generation of nut growers who have followed the example of their forebears will be living in opulence and will be regarded as the saviors of their country, while the great abattoirs and meat packing establishments will have ceased to exist; and the merry click of the nut cracker will be heard throughout the land."—American Nut Journal.

(The above articles are from the pen of Dr. J. H. Kellogg. Dr. Kellogg is our leading authority on dietetics and his Battle Creek, Mich., Sanitarium is justly famous.)

What Others Have To Say

"We import into the United States every year millions of dollars worth of nuts and nut products which could be furnished at home as well as not. We might raise in fact very large quantities of nuts for shipment abroad. North America is particularly well supplied with indigenous species and varieties of nut trees, and most of the species and varieties from all parts of the world may be grown on various soils in our climates, latitudes, and altitudes corresponding to those from which foreign trees are brought. In some parts of the world nuts of various kinds furnish the staple supply of food for the people, practically taking the place of the potato, but in North America as yet nuts are grouped rather among the luxuries.

There are few tillable acres of the continent, from the rocky pastures of New England to the hot sands of the Florida peninsula, which will not yield at least one hundred dollars worth of nuts per acre per year. Very few plants will give a larger return per acre, and with less trouble, than orchards of nut bearing trees and shrubs, and the time is coming when the New England farmer, exhausted by his efforts at paying taxes on poor lands, can sit on the porch during the day with the leisure of the Brazillian coffee planter, and see nature attend to his crop for the most part. He will not do this, however, until he is driven by desperation to wake up. This does not mean that nut orchards do not require attention. They will do better under neglect than most other orchards, but on the other hand they respond very promptly to the touch of the scientific or loving hand, and there is hardly any limitation to the amount of care which can be given with profit to nut orchards.

Aside from the usefulness and profit in nut culture, we have few more beautiful trees than the ones belonging to this group. The majestic pecan, growing sometimes to a height of one hundred and seventy feet, is one of the noblest of all trees. The wide spreading chestnut, the sturdy shagbark hickory, the lofty balck walnut, the beautiful royal walnut, are all a source of joy to the lovers of the beautiful, and the time is perhaps coming when trees of these sorts will largely replace the useless though ornamental trees which now line our roadsides and fill our parks. It is quite as easy to set out a tree which will bear an average of five bushels of nuts per year, worth five dollars per bushel, as it is to set out a poplar or willow."

(The above is an extract from an article in the Garden Magazine, May 1911, by Dr. Robert T. Morris. Dr. Morris is our leading authority on nuts and nut culture in the north and east and was one of the organizers and the first President of the Northern Nut Growers' Association).

"The time has come to realize that nut growing is to be one of the great industries of the future and an important source of human food. An indication of this is the increase in importations of nuts and nut products which, in the face of larger increase in domestic production, amounts to millions every year.
* * * We ought really to be exporting nuts.

The pecan tree in the South has shown that grafted nut trees may be expected to fruit as early as the apple. Grafted nut trees of several varieties for the North can now be had from nurserymen. The want of them heretofore has been a difficulty, since seedling trees are very slow in fruiting and their nuts of uncertain character."

(The above is from a circular sent out by The Northern Nut Growers' Association, Feb. 1912, by Dr. W. C. Deming, Secretary.)

"The consumption of the pecan is not only in its infancy, but the grand parents of the infant will not be born for fifty years yet.

The over-supply bug-a-booo has been threshed out time and again, but my opinion is that an over-supply of pecans is impossible. There may be those who differ with me, but my opinion is entirely unselfish—I carry no concealed deadly motives. I have no nuts, trees, or land for sale, but have bought all of these after mature deliberation.

The most important argument against the probability of over-production is the pecan itself. The most delicious and edible nut that nature has ever blessed mankind with—high in food value—sought by young and old, high and low, rich and poor. Other nuts may be available, but there is no substitute. We pick up an almond or walnut but turn again to the pecan—the king of them all—who marches untrammeled without a peer!

We have heard much of late about the high cost of living. Instead of joining in the general clamor, did you ever stop and do a little thinking for a change? Undoubtedly there are some artificial conditions that have to a degree unjustly contribute to the high cost of living, but the important point that occurs to me is that we are simply up against the question of feeding the great American public. Low prices of food products are gone forever. There may be temporary fluctuations, but in general we will pay for what we eat in the future. Prices of unnecessaries, such as wines, tobacco, etc., may come and go, but things good to eat will come high. How long have we been producing corn, potatoes, hogs, apples and chickens? How are the prices of these things today, and what is the prospect of an over-supply, and of any one of these there are good substitutes?"

(The above is an extract from a paper read before the National Nut Growers' Association by Mr. T. P. Littlepage. Mr. Littlepage was raised among the wild pecan trees in Indiana and is a noted authority on the pecan. It is through his efforts, very largely, that some of our finest northern varieties have been discovered and disseminated).

"I have grown the Thomas for some ten years or more on trees propagated and planted in orchard, also by grafting on native trees growing on rough uncultivable land. They are bearing well and all who try them think them very good. For some uses they are most excellent. Were I a younger man I certainly would plant a large black walnut orchard. Quality is as important in the black walnut as in any thing else that is eaten. There certainly is a difference in quality of black walnuts. Having grown only the Thomas, it is the only one that I could recommend to plant extensively. Have seen samples of the Stabler, which impresses me favorably, but being new, so little is known about it that it is best to go slow."

(The above, from Mr. E. A. Riehl, Alton, Ill., was in answer to a question regarding the black walnut at the convention at Washington, D. C., September 8th, 1916.)

"I want as a result of my agitation, to get a good many million trees of useful varieties planted out in place of the miserable worthless willows, maples, ash, tulip, elm and other fruitless trees with which the American nation is now shading itself."—Dr. J. Russell Smith. (Dr. Smith is President of the Northern Nut Growers' Association.)

"Some years ago I bought five English walnut trees. These were seedling trees and only lived five years, not one of them bearing a nut. From one of these trees I got a bud worked onto black walnut which is now bearing and doing nicely. Strange to say, I have tried several times since to bud more English on black, but they don't seem to want to take any more. I have one walnut tree I purchased from you some years ago now in bearing. This I think is the "Rush," though won't be positive. Last year this tree bore a good many fine nuts, but this year the tree put out a little too early and the nut crop was winter killed. * * I found that his tree was grafted onto black walnut. I much prefer them grafted onto black walnut for this country as the English walnut seems to have trouble here about the roots. Also an English walnut to do well here, must be late putting out in the spring."

(The above is from a letter received from Mr. A. B. Sample, Greenwood, S. C., dated Sept. 11th, 1916. The English walnut, when on its own roots, is subject to the nematode root knot in the South. The late vegetating, French walnuts, are no doubt the best varieties for the South).

"Your catalogue interested me greatly, and while I am not situated so as to put out a grove of nut trees, I am trying to interest others out here and will want a few trees from you myself next spring. Am especially interested in the black walnut, in many respects the best nut in the world. You may infer that I value it when I tell you that my lunch at noon for many years has consisted chiefly of a handful of kernels of the black walnut eaten with an apple. Ten years from now, the grafted black walnut will be one of the important interests of the country."

(The above is a letter received from Mr. D. M. Elliott, Indianapolis, Ind., Sept. 9th, 1916.)

Hagerstown, Md., Mch. 30th, 1916.

"Enclosed find money order for \$7.00 for which ship me four of the best trees you can for the money. We have seedling pecans growing in our vicinity that bear well, but feel positive that the grafted trees will bear younger and more plentifully.—J. B. Sheets.

